

Serial No. 09/664,130

Atty Docket No. GIO-004-US
5702-00004REMARKS

Claims 1-13 and 16-18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lundstrom in view of Taylor et al and Austruy et al. Claims 1, 11, and 16 have been amended to better clarify the invention to include that the compositions of the present invention burn at .4 inches per second at ambient pressure. For various reasons, such as ease of manufacture of an associated inflator, this characteristic of the present compositions is highly desirable.

The examiner states that Lundstrom describes perchlorates and nitrates as oxidizers, a coolant, and silicon. Applicants acknowledge that the coolants of the present invention are not described. Further, applicants note that silicon is distinguishable from silicone.

Lundstrom is not concerned with providing a gas generant composition that sustains combustion and moreover, burns at least .4 inches/sec at ambient pressure, at relatively cooler temperatures. Instead, Lundstrom is concerned with gas generants that provide relatively greater amounts of gas and generate solids that are readily filterable (see the Abstract). Accordingly, there is no suggestion to add silicone to the compositions of Lundstrom. Because Lundstrom does not recognize the concerns of the present invention, there is no suggestion or motivation to add the constituents of the present invention as a solution to the present concerns such as a relatively higher burn rate at ambient pressure.

Taylor et al. does not recognize the concerns of the present invention as described above. Rather, Taylor is concerned with providing an extrudable gas generant that produces little or no toxic gases such as carbon monoxide. See column 2, lines 61-63, and, column 3, lines 9-12. Taylor does not recognize the concerns of the present invention and therefore neither suggests nor presents solutions thereof.

Finally, Austray et al describes a process for manufacture of compositions containing silicone as a binder, not as a fuel. Note that silicone is combined with

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perchlorates and also a chlorine scavenger such as a metal nitrate. There is no suggestion to combine a coolant as provided in the present compositions, for there is no recognition of the concerns of the present invention.

In essence, one of ordinary skill in the art would not be motivated to combine the specific teachings of each reference as indicated by the examiner because there simply is no motivation to combine the present constituents as claimed in the present manner. A prima facie case of obviousness must be supported by the requisite motivation to combine the references. This has not been shown. Stated another way, the cited references when taken alone or together simply do not provide the requisite motivation to combine the individual teachings thereof. It will be appreciated that a superior and/or unexpected property of the present invention is the ability to sustain a burn rate at ambient pressure of greater than .4 inches per second. It is well known that propellants typically must be under relatively higher pressure to sustain an operable or desirable burn rate. Accordingly, an inherent benefit of a reduced operating pressure is that inflators associated with these compositions exhibit satisfactory burn rates and gas production while reducing the necessity of a more costly and robust inflator design.

In view of the above, Applicants respectfully traverse the rejections under 35 U.S.C. 103(a) for a prima facie case of obviousness is simply not supported. Applicant has not calculated a fee to be due in connection with this paper. The Commissioner is authorized to charge any deficiencies to account number 50-3238. If the Applicant can be of any further assistance, the examiner is invited to contact the undersigned.

Respectfully submitted,

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